

Market analysis for timber and forest products in China

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Abstract This paper introduces the general condition of forestry resources of China and the demand and supply of timber and forest products. The market for timber and forest products has borne dual pressure because of the population explosion and growth of the domestic economy. A major contemporary strategy for sustainable forestry includes the promotion of the Forest Products Industry (FPI), the substitution of other materials for timber, and the encouragement of imports of timber and forest products. The author analyzes the effect of these policies on the market for timber and forest products. In addition, the difficulties encountered by most mid-to large-scale state-owned forest enterprises during the transition from a centrally-planned economy to a market economy are examined. Finally, the author points out the countermeasures and means for reform of these old forest enterprises with a view toward future prosperity of the market for timber and forest products.

Key word: Timber, Forest products, Wood based panels (WBP), Pulp & paper, Forest Products Industry (FPI)

Introduction

China's territory is vast, but the forested area is less. About 29% area of China is desert and bare mountains (Zhang *et al.* 1997). The fourth national forest survey, which was conducted by the Ministry of Forestry in 1989~1993, indicates that 133.7 million hm^2 or 13.92% of the land area of China are forest. The stock of living trees is 11.785 billion m^3 , of which 10.1 billion is in forest. The net growth of standing volume is 0.4 billion m^3 per year, while the cut is 0.3 billion m^3 , of which at least one third is for fuelwood. So the forest resources are not rich, forest covering is low, and the quality of forest is not high (Lu 1997). China forestry is facing formidable challenges. On one hand, the available forest resources are low obviously, on the other hand, the demand of timber has to increase because of the population explosion and economy development. The dual pressure causes the deterioration of ecological environment and produces threaten on our biosphere. So China pays much attention to carrying out the strategy of developing sustainable forestry. The main strategies are as follows:

- (1) Devote major efforts to planting fast growing trees.
- (2) Contract 5 forestry ecological projects.
- (3) Take western advanced intensive forest management.
- (4) Protect biological diversity.
- (5) Enhance complex utilization capability of timber and decrease the consumption of forest resources.

Among of them, the more important policies are promoting the development of the Forest Products Industry (FPI) and the encouragement of imports of timber and forest products.

Production and market of timber

Chinese government adopted an "open door" policy and began economic reform since 1978. Its economy has progressed rapidly. From 1981 to 1996, China's real gross domestic product (GDP) near tripled, with an annual growth rate of 10.1 %. Rapid economic growth and huge population have brought a big pressure on China's forest. In order to protect the limited forest resources, China turned to import of foreign forest products to supplement domestic timber supply (Zhang *et al.* 1998). In the 1980s, imported forest products were mainly used in construction (housing, form work) and packing. Softwood logs and veneer/plywood were the main import items. China emerged as the second largest importer of timber in the world. In the 1990s, due to a domestic credit squeeze for construction and high international price for softwood, China's imports of softwood declined significantly. With 11 million newly married couples annually in China, the forest products market for furniture and interior decoration increased dramatically. So the import of hardwood and veneer/plywood have increased rapidly (Zhang *et al.* 1998).

Production and market of forest products

Wood-based panels (WBP)

WBP are the main forest products in China. The production of WBP grew faster than other forest products since the reform of 1978 and especial in 1990s.

See Table 1 (Lu *et al* 1998).

Table 1. Total yield and growth rate of WBP in China

(Million m³/a)

| Year | Total yield of (WBP) | Growth rate (%) | Plywood | Fiberboard | Particleboard |
|------|----------------------|-----------------|---------|------------|---------------|
| 1990 | 2.44 | 12.3 | 0.75 | 1.17 | 0.42 |
| 1991 | 2.84 | 13.9 | 1.05 | 1.17 | 0.61 |
| 1992 | 4.29 | 33.8 | 1.56 | 1.44 | 1.16 |
| 1993 | 5.80 | 26.0 | 2.12 | 1.81 | 1.57 |
| 1994 | 6.65 | 12.7 | 2.61 | 1.93 | 1.68 |

Although the total yield of WBP increase very quickly, the consumption of WBP are superior to the domestic production. In 1992 it reached 6 million m³ (Zhang *et al* 1997). The imported market of WBP is still very large.

Pulp and paper

Pulp and paper are another main forest products, the production of pulp & paper keep up a steadily increasing tendency. Seeing Table 2 (Lu 1997). By 1992, China had become the third largest producer, surpassing Canada and following the United States and Japan (Zhang *et al* 1997). But it can't still meet the needs of economic development. So far China is still a big imported country for pulp & paper. In 1994, China imported about 3 181 thousand t of paper & paperboard, 710 thousand t of pulp and 710 thousand t of waste paper (Lu 1997). With the economic development, the tendency of imported of pulp & paper will be kept undoubtedly.

Table 2. Total yield and growth rate of paper and paperboard

| year | Total yield /thousand t | Growth rate /% |
|------|----------------------------|-------------------|
| 1990 | 13 718 | 2.9 |
| 1991 | 14 787 | 7.8 |
| 1992 | 17 251 | 16.7 |
| 1993 | 18 200 | 5.5 |
| 1994 | 20 000 | 10.0 |

Existing problems

With growth of the domestic economy and the transition from a centrally-planned economy to a market economy, a series of social and economic problems have developed. These include:

(1) Shortage of raw materials

Because of limited forest resource, over-logging of natural forest in the past, and the price of importing timber going up as well, the timber for plywood & veneer are very shortage, and most of plywood factories, especially the state-owned enterprises, are operating under capacity. In pulp & paper industry, the main raw materials are non-wood fiber (grass, bam-

boo, hemp, reed, rag etc), less wood fiber (Lu 1997).

(2) Utilization of fast growing trees

The plantations are mainly pure stand. Most of species in artificial forests are fast growing trees, such as larch (*Larix dahurica*, *Larix gmelinii*) and poplar in north area, Kiri (*Paulownia*) and poplar in central area, slash pine (*Pinus elliottii Engelm*), loblolly pine (*Pinus teada* L), Chinese fir, Chinese red pine (*Pinus massoniana* Lamb) and gum tree (*Eucalyptus*) in south area (Lu *et al* 1998). Meanwhile, these plantations are young and composed of single timber species. The diameter of timber is not big and the proportion of juvenile wood may be high. In general, the wood properties and quality of the plantations are unstable and low. So these timber can't replace those timber from natural forests completely, especially in structural use site.

(3) The scale of enterprise is not big

Many enterprises established belong to country-side-owned. Most of them are mid-to-small scale. These enterprises do not have advanced technology but serious pollution problems. For example, many small pulp & paper factories do not have soda recovery system, so black liquor and waste water drain into river or lake directly (Lu 1997).

(4) Keep the mid-to-large scale state-owned enterprises of forest products going by painstaking effort

China's forest resources are gradually exhausted by excessive exploitation. Many mid-to-large scale state-owned forest enterprises based on timber production are facing the crisis of forest resource and the crisis of economy. During the transition of enterprise from a centrally-planned economy to a market economy, a series of problems have been developed, such as the out-of-date facilities, the arrangement of the off-post workers and financial difficulty.

Corresponding countermeasures

(1) Put the protecting project of natural forest into effect.

Chinese government has decided to cut down the exploitation volume of natural forest sharply and invest a lot in forestry. We should make a great effort to promote the development and utilization of the timber from artificial forest in order to maintain the sustain-

able forestry and improve the ecological environment of human being.

(2) Looking for the substitutes and expanding processing of recycled fibers.

The state has taken a series of effective measures to develop non-wood material industry. About 90% crosstie use concrete to substitute the traditional wooden crosstie. The total yield of non-wood based panels (including bamboo and other agriculture residues) is about 0.5 million m³/year now. It will reach 1.0 million m³/year in the 2000s. Meanwhile, the recovery rate of waste paper is about 25% in China now. China want to expand the production of pulp & paper from recycled fiber and develop two kinds of processing of recycled fibers. One is small and simple processing, with capacity of 10 t/d, using domestic equipment. The other is large and advanced processing, with capacity of 100 t/d, and the equipment used may be introduced from foreign countries such as Japan, Sweden etc (Lu 1997).

(3) Encouragement of imports of timber and forest products.

With the rising of income of Chinese common people, the new houses are established a lot every year. Furniture and interior decoration are needed more and more. So Hardwood products (logs, lumber, veneer/plywood, and other panel products) will continue to be popular in China markets. The state take a multipaths imports of timber and forest products, not

only from Russia, USA, Indonesia and Malaysia, but also from New Zealand, Vietnam, Thailand and African countries.

(4) Restructuring of economy-system of forest enterprises.

For small or middle scale enterprises, we may use the contract system of managerial responsibility or lease contract. In the large-scale enterprises, we engage in the share system. Meanwhile we must enhance the consciousness of sales and determine the yield by sales volume in order to prosper these forest enterprises.

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